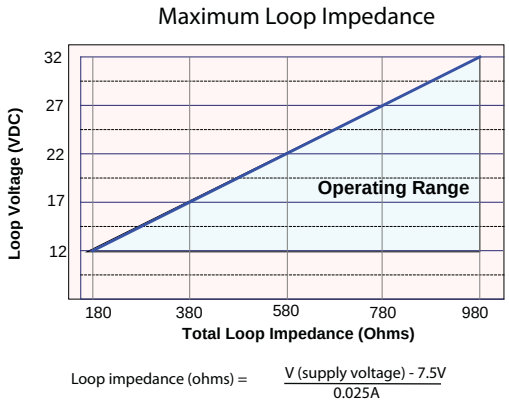
Specifications

Current Ranges	0-200, 0-300 and 0-400A (See Model Number Key)
Power Supply	24VDC nominal (12-32VDC)
Output Signal	4-20mA, Loop Powered
Output Limit	28 mA
Accuracy	1.0% FS
Measurement	True RMS or Average Responding
Frequency Range	ATR: 20-400 Hz AT: 40-400 Hz, Sinusoidal
Isolation Voltage	3kV (tested to 5kV)
Response Time	ATR Models: 1.4 sec. max AT Models: 0.30 sec. (10-90% of step change)
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-20° to +50°C (-4° to +122°F) 0-95% RH non-condensing Pollution degree 2 Altitude to 2000 meters
Approvals	UL/cUL Listed RoHS Compliant

Power Supply



Loop impedance (ohms) = $\frac{\text{V (supply voltage) - 7.5V}}{0.025\text{A}}$

Use a Class 2 power limited supply (maximum 40 VDC), protected with secondary fuse to limit power to a maximum of 100VA.

Model Number Key

AT R 3 - 420 - 24L - FD

CASE STYLE
FD- Fixed core, DIN or Panel

POWER SUPPLY:
24L- 24VDC Loop Powered

OUTPUT:
420 - 4-20mA

RANGE
2 - 200 A
3 - 300 A
4 - 400 A

Measurement
R True RMS
(Blank) Average Responding

SENSOR TYPE:
AT - AC current sensor, 4-20 mA output loop powered

Know Your Power

Other NK Technologies Products Include:
AC & DC Current Transducers
AC & DC Current Operated Switches
1ϕ & 3ϕPower Transducers
Current & Potential Transformers (CTs&PTs)

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NK Technologies

INSTRUCTIONS

AT & ATR 2, 3 & 4 SERIES

AC Current Transducers
4-20mA Output
True RMS or Average Responding

Quick "How To" Guide

1. Run the wire you are monitoring through aperture.
2. Mount the sensor to a DIN rail or panel, or suspend from wire with cable ties.
3. Connect output wiring.
   A. Use 22- 14 AWG rated min. 75°C copper wires only.
   B. Make sure output impedance does not exceed product specifications. See graph below.
   C. Connect 24 VDC power supply, sensor and load (PLC, panel meter, etc.) in series.
4. Energize monitored circuit.
   A. 4mA output shows zero current, 20mA represents current at full range.

Description

AT and ATR-FD Series transducers combine a current transformer and a signal conditioner into a single package. This provides higher accuracy, lower wiring costs, easier installation and save valuable panel space. AT Series are available in solid core with 4-20mA outputs.

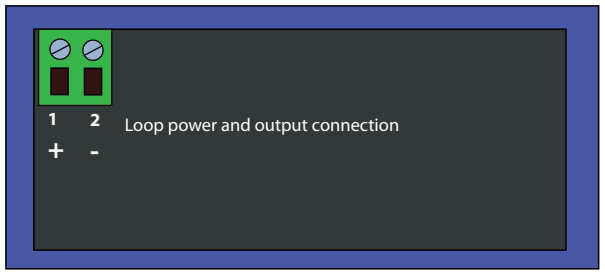
ATR Series feature a True RMS output. They are designed for application on distorted current waveforms such as VFD outputs.

Installation

Run wire(s) to be monitored through the sensing aperture. Use only one phase with all conductors of that phase passing through the sensing aperture.

AT and ATR Series transducers work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

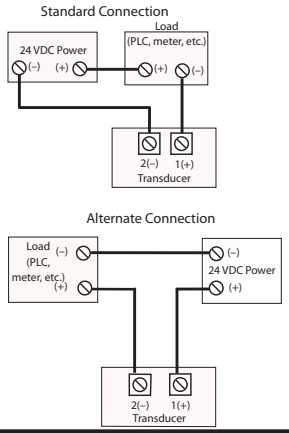
The housing is designed to fit onto a DIN rail or attached to a back panel with screws through the holes in the mounting tabs.

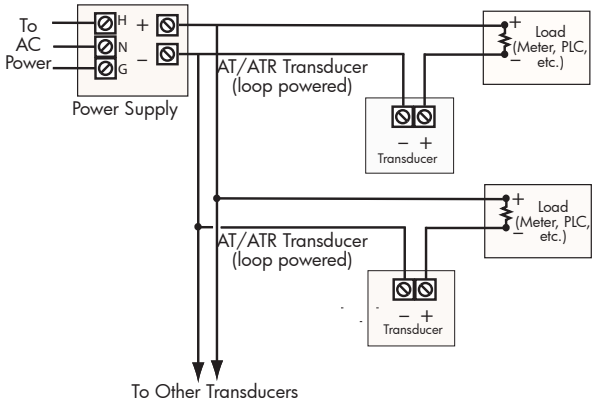


Output Wiring

Connect control or monitoring wires to the sensor. Use 22-14 AWG copper wire rated for 75°C minimum, and tighten terminals to 7 inch-pounds torque. See the graph on the first page to be certain the loop voltage is sufficient for the connected loop impedance (burden including losses in the wire and connected PLC, panel meter, etc.

Single Transducer Installation





Connection Notes:

- Fingersafe terminals.
- 22-14 AWG solid or stranded, copper only.
- Observe Polarity
- See label for model range

Range Select

AT and ATR Series transducers feature a small, compact housing with ranges to 400A. The range is factory calibrated, eliminating time consuming and inaccurate field setting of zero or span.

1. Determine the normal operating amperage of your monitored circuit
2. Select the model that is equal to or slightly higher than the normal operating amperage.

Trouble Shooting

1. **Transducer has no output**
   - A. Power supply is not properly sized. *Check power supply voltage at sensor and output rating.*
   - B. Polarity is reversed. *Check and correct wiring polarity.*
   - C. Loop connections are not secure. *Check tightness of all terminations.*
2. **Output Signal Too Low**
   - A. The model selected may have a range that is too high for current being monitored. *Replace with the correct sensor range.*
   - B. Monitored current current is well below the sensor range. *Loop the monitored wire several times through the aperture until the "sensed" current rises sufficiently. Sensed Amps = (Actual Amps) x (Number of Loops). Count loops on the inside of the aperture.*
3. **Transducer is always at 4mA**
   - A. Monitored current is not AC or is not on. *Check that the monitored current is AC and that it is actually on.*
4. **Output Signal is always at 20mA**
   - A. The range is too low for current being monitored. *Select a sensor with a range higher than the current used.*